

In the Specification

Please amend the specification as described below. A marked version of the replacement paragraphs is submitted as Exhibit A, attached hereto, pursuant to 37 C.F.R. §1.121(b).

Please insert as the first paragraph of the specification the following:

A1  
--This application is a continuation of U.S. Patent Application No. 09/546,891, filed April 10, 2000, and entitled Monovinylaromatic Polymer with Improved Stress Crack Resistance.--

10052149.011702  
Please delete the first paragraph of the Description of the Preferred Embodiments of the specification that spans pages 5 and 6, and replace it with the following paragraph:

A2  
The present invention discloses a thermoplastic composition containing a polymer of a monovinylaromatic compound which has been modified with an elastomer to increase its impact strength and environmental stress crack resistance, which compound is obtained by polymerizing the monovinylaromatic material in the presence of a combination of polymerization initiators and the elastomer. In the composition, the portion of the soft component in the polymer, which has been modified to increase its impact strength, is less than 28% by weight based on the polymer, the soft component being defined as the toluene-insoluble constituent of the polymer which has been modified to increase its impact strength, minus any pigment which may be present. The particular rubber utilized in the present invention could be one of several types, for example the type sold by Firestone and designated as Diene 55 having a Mooney viscosity of approximately 55, a number molecular weight of about 150,000, weight average molecular weight of about 300,000, and a Z molecular weight of about 500,000 as

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measured by the gel permeation technique. Another type of advantageous rubber material includes the high-Cis rubbers.

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Please delete the paragraph beginning on page 6 and continuing on page 7 of the specification, and replace it with the following paragraph:

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Suitable monovinylaromatic compounds utilizing the present invention include styrene as well as styrenes alkylated in the nucleus or side-chain as alphamethyl styrene and vinyltoluene. The monovinylaromatic compounds may be employed singly or as mixtures. In one preferred embodiment, styrene was the monovinylaromatic compound of preference. The high impact polystyrene (HIPS) manufactured according to the present invention is formed by polymerizing the monovinylaromatic compound in the presence of the rubber and a novel combination of initiators which include a combination of perketals and peroxyarbonates. The level of rubber utilized is preferably in the range of about 5-15% by weight of the solution. The polymerization is carried out in a conventional manner by mass polymerization, solution polymerization, or polymerization in aqueous dispersion, the rubber first being dissolved in the polymerizable monomer and this solution then being subjected to polymerization in the presence of the initiator combination. A suitable peroxyarbonates polymerization initiator would include for example, t-Amyl 2-Ethylhexyl peroxyarbonates (TAEC) and a suitable perketal initiator would be ethyl-3,3-di (t-butyl peroxy)-butyrate, such as that sold by Elf Atochem North America, 2000 Market St., Philadelphia, P.A. and designated commercially as LUPERSOL 233. When using solution polymerization, the starting solution may be mixed with up to about ten percent (10%) by weight, based on the monovinylaromatic compound employed, of an inert diluent. Preferred inert diluents include aromatic hydrocarbons or mixtures of aromatic hydrocarbons such as toluene, ethylbenzene, xylenes, or mixtures of these compounds. Suitable chain transfer agents, e.g., mercaptans or alphamethyl styrene dimer, may also be added to

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control polymer molecular weight and rubber particle size. Additionally, lubricants, such as mineral oil and polyisobutylene, may also be added.

Please replace Table I on page 9 of the specification with the following Table I:

Table I				
ESCR Improvement				
	A	B	C	D
PPM Initiator #1	400	400		
PPM Initiator #2			400	400
PPM Initiator #3	200	200	200	200
PPM Chain Transfer Agent	500	500	500	500
Mineral Oil %	2	2	2	2
PIB %	2	2	2	2
Span Measure of R.P. Size Distribution	1.8	1.6	1.0	1.4
R.P.S. (microns)	6.1	5.8	4.2	5.0
% Rubber	11.4	12.0	11.5	11.5
Swell Index	12.2	12.1	12.8	13.0
Gels %	23.3	24.8	24.5	22.8
Grafting	104	107	113	99
% Toughness Retained ESCR	22.5	22.8	36.8	44.3
Tensile Modulus	228,300	214,300	210,900	221,900

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Please replace Table II on page 10 of the specification with the following Table

II:

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Table II		
	A	B
PPM Initiator L-331	400	
PPM Initiator TAEC		600
PPM Initiator L-233	200	200
PPM Chain transfer agent	200	--
% m.o.	2	2
% PIB	--	--
Span RPS Distributors	2.0	1.5
Micron RPS	3.3	3.6
% Rubber	4.2	4.4
Swell Index	10.7	10.8
Gels	9.7	12.5
Grafting	130	184
Tensile Mod.	339,500	332,300

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